MEMA

Moving America Forward

Executive Summary

The U.S. motor vehicle parts manufacturing industry includes four distinct market segments. Together, the four market segments make up the U.S. motor vehicle parts manufacturing industry which supports jobs in every state in the country, impacts local economies, and affects nearly every industry.

Original equipment (OE) suppliers design, engineer, and manufacture parts required for the assembly of passenger cars and light trucks, also referred to as the light-duty vehicle market

Automotive aftermarket suppliers market includes the manufacturing, remanufacturing, distribution, retailing, and installation of all vehicle parts, chemicals, tools, equipment, and accessories

Heavy-duty parts manufacturers supply OEM and aftermarket products for medium- and heavy-duty trucks, school buses, transit buses, and emergency vehicles

The remanufacturing industry supplies replacement parts for the automotive and heavy-duty motor vehicle aftermarket, providing environmental, economic, and product performance benefits for both customers and society.

Automotive suppliers account for

2.7% of U.S. employment

2.6% of total U.S. wages

2.3% of U.S. GDP

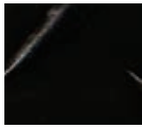
Parts suppliers manufacture more than

Summary of Economic Impacts of U.S. Motor Vehicle Parts Manufacturing Industry

	Employment	Labor Income	Value Added
Total Effect	**3,621,111**	**$220,542,484,480**	**$354,348,800,000**
Direct Effect	734,212	$58,249,105,408	$80,895,020,000
Indirect Effect	1,267,005	$86,076,284,928	$137,133,200,000
Induced Effect	1,619,894	$76,217,098,240	$136,320,500,000







Motor Vehicle Parts Manufacturers Create Jobs

Motor vehicle parts manufacturers are the largest employers of manufacturing jobs in the United States directly employing over 734,000 people, making this industry the largest creator of manufacturing jobs nationwide.

Motor vehicle parts manufacturers have a presence in all 50 states compared to only 18 states where motor vehicles are manufactured. The top three states of direct employment for parts manufacturers – Michigan, Ohio and Indiana – comprise 37% of the national total of 734,000 supplier employees. While the top 10 states bring that share to just over 69%, motor vehicle suppliers directly employ more than 10,000 persons in 18 states.

Total Employment Contribution of Motor Vehicle Parts Manufacturing Industry

TOTAL EMPLOYMENT	3,621,121	100.0%
Manufacturing	1,244,542	34.4%
Information & Professional Services	881,570	24.3%
Wholesale & Retail Trade	437,190	12.1%
Leisure & Other Services	429,681	11.9%
Finance, Insurance, Real Estate, and Leasing	321,368	8.9%
Transportation & Utilities	158,893	4.4%
Natural Resources	84,506	2.3%
Construction	40,368	1.1%
Government	23,003	0.6%

Over 734,000 direct employees within the U.S. motor vehicle parts manufacturing industry generate an additional 1.27 million U.S. jobs through the supply chain. The combined 2 million direct and indirect employees create their own economic impact through their everyday purchases within their local economy. This employment-induced effect supports an additional 1.62 million employees.

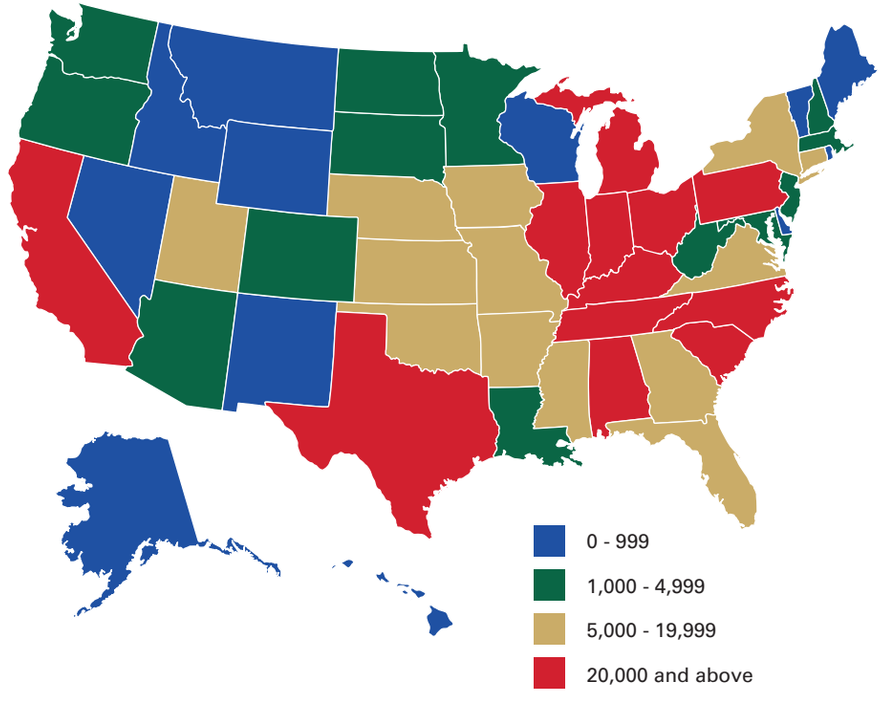
Thus, the total employment impact from the U.S. motor vehicle supplier industry is **3.62 million employees**. For the total industry, the employment multiplier is 4.93. Consequently, for every direct job in the motor vehicle supplier industry, another five jobs are created.

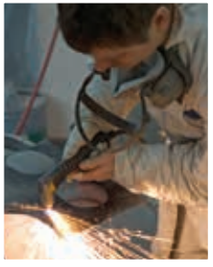
The 3.62 million total employees supported by this industry generate **over $220 billion in wages and income**. This represents **2.6% of all U.S. wages and salaries paid** in 2012. This industry also generates nearly $355 billion in GDP contribution, which is **2.3% of the total U.S. GDP**.

The two major industries that benefit from the expenditure-induced effects of motor vehicle suppliers are the transportation and utilities industries. These two industry sectors, plus the education and health services industries, combine for a total of 43% of the induced employment generated. The financial activities industry and leisure and hospitality industries account for 14% and 13%, respectively.

The combined employment of the professional and business services industry and the trade, transportation, and utilities industries makes up 43% of the total indirect employment and more than two-thirds of the non-manufacturing indirect jobs. The largest beneficiaries of indirect employment for the manufacturing sector are the fabricated metal product and primary metal manufacturing industries, accounting for 17% of the total indirect employment and almost half of the total manufacturing indirect employment.

State Direct Employment of Motor Vehicle Parts Manufacturing Industry




It comes as no surprise that parts manufacturers are dependent on a healthy national economy as well as strong vehicle sales and production. During the economic downturn and depressed sales in 2009, total vehicle production fell to just 5.8 million units – just over half of the 2006 pre-recession volume. In 2012, as vehicle sales have bounced back so has plant production. Light vehicle sales reached nearly 14.5 million units; heavy-duty vehicles sold about 345,000 units. OEMs responded to the stronger sales by producing 10.4 million units – only 9.6% below 11.4 million units produced in 2006. Most independent forecasters predict a continued increase in total vehicle production and total vehicles in operation, which, in turn, will continue to drive employment increases across all sectors of motor vehicle suppliers.

The automotive aftermarket is less cyclical, and has provided steadier support for the U.S. economy. After experiencing a shallower downturn in the recession than almost any other manufacturing and retail sectors, the automotive aftermarket has exhibited steady growth, with end market spending in the light- and heavy-duty aftermarket exceeding $300 billion in 2012. While employment in the supplier sector continues to be challenged by low-cost country competition, we expect this large and stable market to continue to grow in 2013 and beyond.

Automotive Original Equipment Suppliers

Original equipment (OE) suppliers design, engineer, and manufacture parts required for the assembly of passenger cars and light trucks, also referred to as the light-duty vehicle market. The supplier industry contributes approximately two-thirds of the content value to the 300 light vehicle models that are offered for sale in U.S. With each vehicle model containing between 8,000 and 12,000 components, the light-duty sector is very complex.

Total Employment Contribution of Light Vehicle Parts Manufacturing Segment

TOTAL EMPLOYMENT		2,132,649	100.0%
	Manufacturing	736,740	34.5%
	Information & Professional Services	517,559	24.3%
	Wholesale & Retail Trade	259,361	12.2%
	Leisure & Other Services	252,573	11.8%
	Finance, Insurance, Real Estate, and Leasing	189,103	8.9%
	Transportation & Utilities	95,007	4.5%
	Natural Resources	45,040	2.1%
	Construction	23,823	1.1%
	Government	13,443	0.6%

Suppliers to this sector play different roles and supply components and systems from different levels – often identified as the "tier" in which the company operates. Tier 1 suppliers provide full design and engineering support and sell finished systems or modules, such as transmissions, seats, instrument panels, and trim components directly to the vehicle manufacturer. Tier 2 suppliers make parts such as transmission gears, electronics, speedometers, and seat covers to the Tier 1 suppliers. Tier 3 suppliers provide raw materials to either of the other suppliers. Each tier depends on the financial health of the other tiers for its survival. Ultimately, all suppliers depend on the financial health of the domestic and foreign vehicle manufacturers that are at the top of the supply chain pyramid. Given this description, it is easy to see the interdependency of the entire vehicle manufacturing industry.

OE suppliers make up the majority of the direct employment in the motor vehicle parts manufacturing industry. In 2012, OE suppliers directly employed 424,000 people – 58% of total industry direct employment. The direct employment of the OE market segment




creates an indirect employment effect of nearly 757,000 employees. Consequently, the direct and indirect employment figures generate an induced employment impact of 952,000 employees. Thus, the total employment impact for the OE market segment is 2.13 million jobs, which is 1.6% of total U.S. employment. The 2.13 million jobs represent an employment multiplier of 5.

The 2.13 million total employees supported by this market segment generate over $129 billion in wages and income making up 1.5% of all U.S. wages and salaries paid in 2012. The industry also generates almost $206 billion in GDP contribution, which is 1.3% of the total U.S. GDP.

As was the case with the total U.S. motor vehicle supplier industry, the manufacturing sector, at 34.5%, makes up the largest share of the light vehicle OE total employment impact. Almost 58% of the manufacturing employment is due to the OE market segment's direct employment, which is below the 66% seen for the total supplier industry. Similar to the total industry employment impact, nearly two-thirds of all employment originates from outside the overall manufacturing sector. To compare the total U.S. employment contribution of other industries, the information and professional services sector accounts for over 24% and the wholesale and retail trade sector comprises just over 12%. Clearly, the motor vehicle supplier industry as a whole and the OE suppliers as a segment are significant contributors to the nation's employment impact.

Summary of Economic Impacts of U.S. Light Vehicle Parts Manufacturing Segment

	Employment	Labor Income	Value Added
Total Effect	**2,132,649**	**$129,458,675,712**	**$205,633,800,000**
Direct Effect	423,897	$33,478,193,152	$44,435,780,000
Indirect Effect	756,582	$51,195,179,008	$81,096,120,000
Induced Effect	951,775	$44,785,303,552	$80,101,920,000

Automotive Aftermarket Suppliers

The U.S. automotive light vehicle aftermarket is a $231 billion industry and is characterized by its stability and consistent long term growth. The automotive aftermarket market segment includes the manufacturing, remanufacturing, distribution, retailing, and installation of all vehicle parts, chemicals, tools, equipment, and accessories necessary to keep passenger vehicles on our nation's roads operating safely and efficiently.

Total Employment Contribution of Aftermarket Parts Manufacturing Segment

TOTAL EMPLOYMENT	778,869	100.0%
Manufacturing	280,328	36.0%
Information & Professional Services	184,460	23.7%
Wholesale & Retail Trade	92,292	11.8%
Leisure & Other Services	90,828	11.7%
Finance, Insurance, Real Estate, and Leasing	68,264	8.8%
Transportation & Utilities	32,704	4.2%
Natural Resources	17,190	2.2%
Construction	8,044	1.0%
Government	4,761	0.6%

Most automotive aftermarket maintenance and repair work takes place in an independent repair shop or a vehicle manufacturer's dealership service facility. There is also a strong "do-it-yourself" market (*i.e.* individuals who perform their own vehicle maintenance) in the automotive aftermarket industry. Considering that the average vehicle age is now just over 11 years old, plus the many replacements of oil, brakes, batteries, sensors, filters, lights, fluids, hoses, belts, and tires an average vehicle requires in its lifetime multiplied by the over 243 million light vehicles in operation in the U.S., it is easy to see why the automotive aftermarket market segment has shown steady growth that will continue to grow for years to come.

The portion of the U.S. motor vehicle supply industry that supports the light vehicle aftermarket makes up 19% of the industry's direct employment. In 2012, this market segment produced nearly 140,000 direct jobs. The direct employment within this market segment creates an indirect employment effect of nearly 247,000 employees. As a result of the direct and indirect employment, an induced employment impact of 323,000 employees is also generated. The total employment impact for the automotive



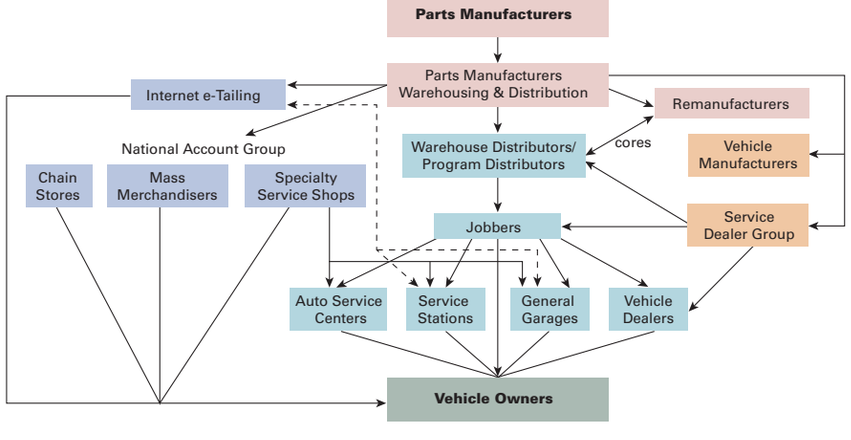

aftermarket segment is 710,000 jobs, which accounts for 0.5% of total U.S. employment. The total employment figure represents an employment multiplier of 5.1.

The 710,000 direct employees supported by aftermarket suppliers generate just over $44 billion in wages and income making up 0.5% of all U.S. wages and salaries paid in 2012. The suppliers in this industry also generate almost $74 billion in GDP contribution, which is 0.5% of the total U.S. GDP.

Summary of Economic Impacts of U.S. Aftermarket Parts Manufacturing Industry

	Employment	Labor Income	Value Added
Total Effect	**709,592**	**$44,086,034,432**	**$73,939,780,000**
Direct Effect	139,701	$11,857,232,896	$18,939,450,000
Indirect Effect	247,101	$17,023,379,456	$27,803,840,000
Induced Effect	323,269	$15,205,424,128	$27,196,490,000

Aftermarket Channels of Distribution



Source: Northwood University and AASA Analysis

Consistent with what was seen in the other industry market segments, the manufacturing sector makes up the largest share of the aftermarket supply total employment impact. Direct manufacturing employment for aftermarket suppliers is the lowest of the other market segments at just under 50%, compared to the total industry share of 66%. The aftermarket's mission of delivering the "right part at the right place at the right time" to consumers requires considerable industry expertise in distribution, information technology, marketing, and logistics. Manufacturing, information and professional services and the wholesale and retail trade sector take the top three sectors of employment.

Heavy-Duty Original Equipment And Aftermarket Suppliers

Heavy duty parts manufacturers supply OEM and aftermarket products for medium and heavy-duty trucks, school buses, transit buses, emergency vehicles and off-highway equipment. Passenger vehicles share the road with commercial vehicles, like medium- and heavy-duty trucks, which are used to move the vast majority of goods in the United States. Additionally, school buses, transit buses, and emergency vehicles are relied on to operate safely and efficiently. Infrastructure maintenance, mining, forestry, and agriculture all utilize wheeled and tracked, off-road commercial vehicles. Heavy-duty suppliers produce the original equipment parts used to manufacturer new commercial vehicles and aftermarket replacement parts needed to maintain in-service vehicles. Heavy-duty suppliers are also responsible for innovating and developing most of the technologies that keep these vehicles safe, energy-efficient, and emitting less.

Total Employment Contribution of Heavy-Duty Parts Manufacturing Segment

TOTAL EMPLOYMENT		709,592	100.0%
	Manufacturing	227,464	32.1%
	Information & Professional Services	179,551	25.3%
	Wholesale & Retail Trade	86,281	12.2%
	Leisure & Other Services	85,537	12.1%
	Finance, Insurance, Real Estate, and Leasing	64,000	9.0%
	Transportation & Utilities	31,182	4.4%
	Natural Resources	22,276	3.1%
	Construction	8,501	1.2%
	Government	4,799	0.7%

Due to the size and weight of heavy-duty components and the cost of shipping, most domestic heavy-duty supplier part manufacturing remains in the United States. This industry is dependent on a healthy economy generating freight ton-miles demand and domestic, heavy, and industrial construction. Because of lower volumes and tighter margins, supplier success in the commercial vehicle market is particularly impacted by fluctuating economic cycles, changing manufacturer demands, shifting production schedules, tightening credit markets, and implementing new regulatory requirements that have caused both spikes and steep drops in heavy-duty demand.

Supporting the heavy-duty vehicle OEMs and the associated aftermarket, the heavy-duty market segment of the U.S. motor vehicle supply industry comprises just over 23% of the industry's total direct employment. In 2012, that amounted to nearly 171,000 employees. The direct employment within this market segment creates an indirect employment effect of nearly 263,000 employees. The direct and indirect employment figures combine for an induced employment impact of 345,000 employees. Thus, the total employment impact for the heavy-duty market segment is 779,000 jobs, which is 0.6% of total U.S. employment. The total employment figure represents an employment multiplier of 4.6.

The heavy-duty market segment 779,000 employees provide $47 billion in wages and income,making up 0.5% of all wages and salaries paid in the country in 2012.

Consistent with the other market segments, the manufacturing sector makes up the largest share of the heavy-duty supplier market segment total employment impact. Though, at 32.1%, the industry share for heavy-duty market segment is slightly lower than in the light vehicle OE market segment. For the total industry, the share of manufacturing employment due to the market segment's direct employment was 66%, but that share is 75% for heavy-duty suppliers. As is the case with both the total industry and the light vehicle OE segment, the information and professional services sector is the second largest sector, with over 25% of total employment, and the wholesale and retail trade sector which makes up just over 12% of the total employment contribution.

Summary of Economic Impacts of U.S. Heavy-Duty Parts Manufacturing Industry

	Employment	Labor Income	Value Added
Total Effect	**778,869**	**$46,997,741,568**	**$74,775,220,000**
Direct Effect	170,623	$12,913,674,240	$17,519,800,000
Indirect Effect	263,322	$17,857,695,744	$28,233,270,000
Induced Effect	344,850	$16,226,369,536	$29,022,140,000

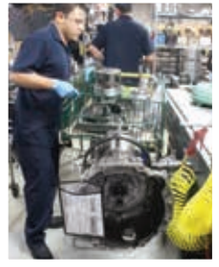
Remanufacturers And Their Suppliers

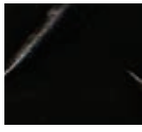
Remanufacturing is a standardized industrial process by which previously sold, worn, or non-functional products are returned to same-as-new, or better, condition and performance. The process incorporates technical specifications, including engineering, quality, and testing standards to yield fully warranted products. Examples of remanufactured components in the industry include: engines, transmissions, alternators, starters, turbochargers, steering and suspension components, and electronic control modules.

The United States is the world's largest producer, consumer, and exporter of remanufactured goods. According to the U.S. International Trade Commission, the top three industry sectors that account for remanufacturing activity in the U.S. are (ranked by production value) aerospace, heavy-duty and off-road (HDOR) equipment, and motor vehicle parts.

Remanufacturing of motor vehicle parts creates 30,653 full-time U.S. jobs, a figure that is included in the totals for the automotive aftermarket and heavy-duty vehicle market segments. In addition, remanufacturing of off-road equipment creates an additional 20,870 jobs.

The U.S. remanufacturing industry is growing, providing a sustainable and economically viable response to increased global trade pressures, resource scarcity, and rising energy costs – all for the benefit of consumers and society. Since remanufacturing preserves the value of the original manufacturing – including

material and energy costs and investments in capital and labor inputs, which recycling alone cannot do – the remanufacturing process saves approximately 85% of the energy and material used to manufacture equivalent new products. At the same time, remanufactured parts are, on average, 20 to 50% less expensive than new parts, while delivering an equivalent level of quality backed by competitive warranties.

Remanufactured Goods Production, Investment, Employment, Exports, Imports, and Manufacturing Intensity, 2011

Sector	Production (thousand $)	Investment (thousand $)	Employment (full-time workers)	Exports* (thousand $)	Imports (thousand $)	Remanufacturing Intensity (%)**
Aerospace	13,045,513	90,471	35,201	2,589,543	1,869,901	2.5
HDOR equipment	7,770,586	162,746	20,870	2,451,967	1,489,259	3.8
Motor vehicle parts	6,211,838	105,684	30,653	581,520	1,481,939	1.1
Machinery	5,795,105	711,008	26,843	1,348,734	268,256	1.0
IT products	2,681,603	17,503	15,442	260,032	2,756,475	0.4
Medical devices	1,463,313	31,260	4,117	488,008	110,705	0.5
Retreaded tires	1,399,088	23,874	4,880	18,545	11,446	2.9
Consumer products	659,175	4,948	7,613	21,151	360,264	0.1
All other	3,973,923	67,537	22,999	224,627	40,683	1.3
Wholesalers	n/a	8,294	10,891	3,751,538	1,874,128	n/a
Total	43,000,144	1,223,326	179,509	11,735,665	10,263,056	2.0

** Source: International Trade Commission*

*: Motor vehicle parts is a large sector, but does not export much directly; reflects the regional nature of the business.
**: Value of shipments of remanufactured goods relative to total sector production

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- Over 734,000 jobs are directly supported by the motor vehicle parts manufacturing industry
  - Nearly 424,000 jobs are directly tied to manufacturers supplying passenger car OEMs
  - More than 171,000 jobs are directly tied to supplying heavy-duty OEMs and the heavy-duty aftermarket
  - Nearly 140,000 jobs are directly tied to supplying the automotive aftermarket
- The top five states for direct employment – Michigan, Ohio, Indiana, Tennessee, Kentucky – make up just under 50% of total direct employment
- The 734,000 jobs generate a supply chain effect of nearly 1.27 million indirect jobs
- The direct and indirect employment supports an additional 1.62 million employment-induced jobs within the U.S.
- The total employment impact of the motor vehicle supply industry in the U.S. is over 3.62 million jobs in 2012
- Over $220 billion in total wages and income paid to workers are supported by the motor vehicle supplier industry
- Nearly $355 billion in economic contribution to the U.S. GDP is generated by the motor vehicle supplier industry
- Total jobs (3.62 million) is 2.7% of the U.S. employment market, direct wages ($220 billion) is 2.6% of total U.S. wages, and industry economic contribution ($355 billion) is 2.3% of U.S. GDP




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